08CN8803-16

REMARKS

Claims 1 – 60 are pending in the present Application. Claims 8 and 35 have been amended, leaving Claims 1 – 60 for consideration upon entry of the present Amendment. Claim 8 has been amended to correct grammatical errors, while Claim 35 was amended to change its dependency. The Specification has been amended to correct a typographical error. Support for the amendment to the specification can at least be found in the referenced patent application. Support for the amendment to Claim 35 can at least be found in Paragraph [0047]. No new matter has been introduced by this amendment. Reconsideration and allowance of the claims are respectfully requested in view of the above amendment and the following remarks.

Claim Objections

Claim 8 has been amended to correct grammatical errors. Reconsideration and withdrawal of the objection to Claim 8 are respectfully requested.

Claim 58 has been rejected as depending from a rejected base claim. Applicants contend that the base claim is also allowable, but will redraft Claim 58 in independent form if the base claim is ultimately found unallowable.

Definition of Areal Density

Regarding the definition of areal density and the ability of a storage media to have a particular areal density, Applicants refer the Examiner to Applicants previously filed remarks and appeal brief (which are incorporated herein by reference), as well as to the jacket of a floppy disk that has printed on it "1.44 MB" (an areal density of the floppy disk). Finally, Applicants refer to a reference cited by the Examiner, U.S. Patent No. 6,146,755 to Guha et al., Col. 2, where they discuss a storage media with a storage density of 65 Gbits/in^2. The areal density is a property of the media.

It is noted that the claims must be read as a whole, and the references cited do not teach all elements of the present claims.

08CN8803-16

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1 – 57, 59, and 60 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over various combinations of U.S. Patent No. 5,538,774 to Landin et al., U.S. Patent No. 5,972,461 to Sandstrom, U.S. Patent No. 5,981,015 to Zou et al., U.S. Patent No. 6,127,017 to Hirata et al., U.S. Patent No. 6,411,457 B2 to Yamashita et al., U.S. Patent No. 6,156,422 to Wu et al., Guha et al., U.S. Patent No. 6,154,438 to O'Hollaren et al., U.S. Patent No. 4,987,020 to Bonnebat et al., U.S. Patent No. 5,968,627 to Nigam et al., U.S. Patent No. 6,335,843 B2 to Yotsuya et al., WO 98/42493 (equivalent: U.S. Patent No. 6,096,419) to Ito et al., U.S. Patent No. 4,870,429 to Fujita et al., DE 43-26296 A1 to Yamaguchi, U.S. Patent No. 5,585,989 to Kuromiya et al., U.S. Patent No. 5,875,083 to Oniki et al., U.S. Patent No. 5,585,159 to Miyake et al., JP 63-205817A to Otada et al. Applicants respectfully traverse these rejections, at least for the reasons set forth in the prior responses and appeal brief, and respectfully disagree with the descriptions of the alleged teachings of the references set forth in the Office Action dated August 12, 2004 (hereinafter "Office Action").

Landin et al. are directed to a method for internally damping a rotatable storage article, which is subject to resonant vibration. (Abstract) Landin et al. at least fail to teach a storage media having a surface roughness of less than about 10Å and an axial displacement peak of less than about 500 μ under shock or vibration excitation. They also fail to teach resonance frequencies, first modal frequencies, areal densities, and other elements of the present claims.

Wu et al. teach a high density magnetic recording medium with high HR and low MRT by employing particular layers with particular parameters. Wu et al. do not address tilt or solve the deficiencies of the other references of record. Wu et al. at least fail to teach a storage media having a surface roughness of less than about 10Å and an axial displacement peak of less than about 500 μ under shock or vibration excitation.

Otada et al. disclose that to improve surface smoothness so that the deformation is prevented at the time of forming an underlying and magnetic layer and to permit reduction in weight and improvement in productivity by coating the surface of a ceramic substrate with a heat resistant plastic layer (Abstract). Otada et al. at least fail to teach a storage media having a surface roughness of less than about 10Å and an axial displacement peak of less than about 500 μ under shock or vibration excitation, as well as several other elements of the present claims.

Sandstrom discloses a "Rewritable Optical Data Storage Disk Having Enhanced Flatness". In order to attain the "enhanced flatness" and avoid process induced surface variations such as warpage and tilt, Sandstrom disclosed a substrate with increased thickness that is greater than or equal to approximately 1.5 mm and less than or equal to approximately 2.5 mm. (Title and Abstract and throughout the Specification) Although Sandstrom, in a general discussion of the art mention that substrate materials can comprise a variety of materials, the focus and overall teaching of Sandstrom, when read as a whole, is to increasing the thickness of a polycarbonate substrate in order to attain the desired physical and mechanical characteristics (flatness...). Sandstrom fails to teach tilt in a storage media having a substrate thickness of up to about 1.2 mm.

Oniki et al. teach a magnetic disk having planarized CSS zone. They are relied upon to teach thickness values. However, the values discussed in Oniki et al. conflict with the specific teachings of the entire patent of Sandstrom. Clearly there is no motivation to combine these references and no expectation of success, particularly with the teachings of Sandstrom.

Zou et al. address deflection and warp in disk substrates with thinner and thinner dimensions by particular material choice (Col. 1, lines 29 – 50); Hirata et al. disclose a cavity surface for injection molding information recording disks (Abstract); Yamaguchi discloses a glass-ceramic substrate having a particular composition can be used for magnetic disk (Abstract); Bonnebat et al. address buckling in injection-molded disk members.

Ito et al. is directed to aromatic polyamide film and magnetic recording medium using the same. Ito et al. claim to attain a recording medium with a high degree of flatness with small curls and high recording density. (Abstract)

Yotsuya et al., discuss a recording medium driving device. They describe a hard disk drive (HDD) which adopts CSS (contact start stop) type floating or levitation head device. (Abstract)

Nigam et al., disclose a magnetic recording medium (i.e., a flexible metal foil disk) that can resist mechanical shock. (Abstract)

O'Hollaren et al., disclose a storage medium that has a surface "made to vary by an insubstantial amount relative to a datum to provide for improved flyability of a head over the surface." (Abstract)

Fujita et al., is directed to an optical foam-spacer disk assembly. The optical disk has two substrates bonded to form an integrated body with a spacer interposed therebetween. (Abstract)

Guha et al., are directed to a high density magnetic recording medium with a substrate substantially formed of either SiO_2, Si_3N_4, or a compound of SiO_2 and Si_3N_4. (Abstract)

Yamashita et al., disclose that data can thus be recorded into and reproduced from a magnetic disk at a variable speed. (Abstract)

Kuromiya et al., are directed to using a thermoplastic norbornene type plastic as a material for the magnetic disc substrate. They teach that by "optimizing the thickness of the substrate, the resonance frequency of the magnetic disc can be elevated to a level higher than the servo band." (Abstract)

Miyake et al., disclose a recording medium including a transparent substrate and a recording layer. They teach that by "suppressing recording medium vibration resonance from a recording and reproducing device, an improved frequency characteristic of a linear motor can be achieved, thereby enabling high access speed." (Abstract)

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

As stated in prior responses and the appeal brief, there are many different types of media and many references describing different ways people have attempted to improve the media, e.g., to obtain higher areal densities and the like. However, none of these references teach the media of the present claims.

Landin et al. are directed to a method for internally damping a rotatable storage article, which is subject to resonant vibration. Landin et al. introduce a viscoelastic material as an inner layer(s) of a rotatable storage article. (Abstract) Landin et al. at least fail to teach a storage media

comprising a surface roughness of less than about 10Å and an axial displacement peak of less than about 500 μ under shock or vibration excitation. They also fail to teach a storage media comprising at least one plastic resin portion having a thickness of less than about 50 μ and disposed between at least one data layer and a substrate. Additionally, Landin et al., fail to teach the varied thickness of the substrate portion. (Applicants contend that the Examiner's representation of Landin et al.'s figure is misleading, even as shown, does not have a varied thickness. The area with the bracket "substrate" has a constant thickness.)

As with Landin et al., and Otada et al. fail to teach all of the elements of the present claims. For example, Otada et al. at least fail to teach a storage media comprising a surface roughness of less than about 10Å and an axial displacement peak of less than about 500 μ under shock or vibration excitation. Otada et al. also fail to teach a specific resonant frequency, a first modal frequency of greater than an operating frequency, modal frequenc(ies) of less than an operating frequency, edge lift height, substrate geometries (e.g., varying thickness), axial displacement, moment of inertia, moisture content, and so forth.

There is no teaching or suggestion in the references of record, when read as a whole, to motivate an artisan to combine the references as suggested in the office action. Such combinations would require hindsight reconstruction, and/or picking and choosing teachings from references while ignoring other teachings. Applicants teach a media and method of using the media that has a unique combination of properties that are not taught or rendered obvious by the art of record when the references are read as a whole for what they teach and the only combinations of references are based upon motivation provided by the references. The mere fact that a reference teaches a storage media does not provide motivation to combine it with another storage media reference.

The references of record, alone and when properly combined, fail to render the present claims obvious when viewed at the time of the present invention and when the motivation for combinations must be provided by the references. Applicants disagree with the characterization and alleged teachings of the references set forth in the Office Action.

Reconsideration and withdrawal of the rejections and allowance of the claims are respectfully requested.

08CN8803-16

Allowable Subject Matter

Applicants note that Claim 58 is indicated as comprising allowable subject matter. Applicants respectfully disagree that the prior art teaches that it is known to make no modal frequencies below the operating frequency.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein are allowable to Applicants. Accordingly, reconsideration and withdrawal of the objections and rejections, and allowance of the case are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0862.

Respectfully submitted,

CANTOR COLBURN LLP

By _____
Pamela J. Curbelo
Registration No. 34,676

Date: December 13, 2004
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002
Telephone (860) 286-2929
Facsimile (860) 286-0115
Customer No.: 23413